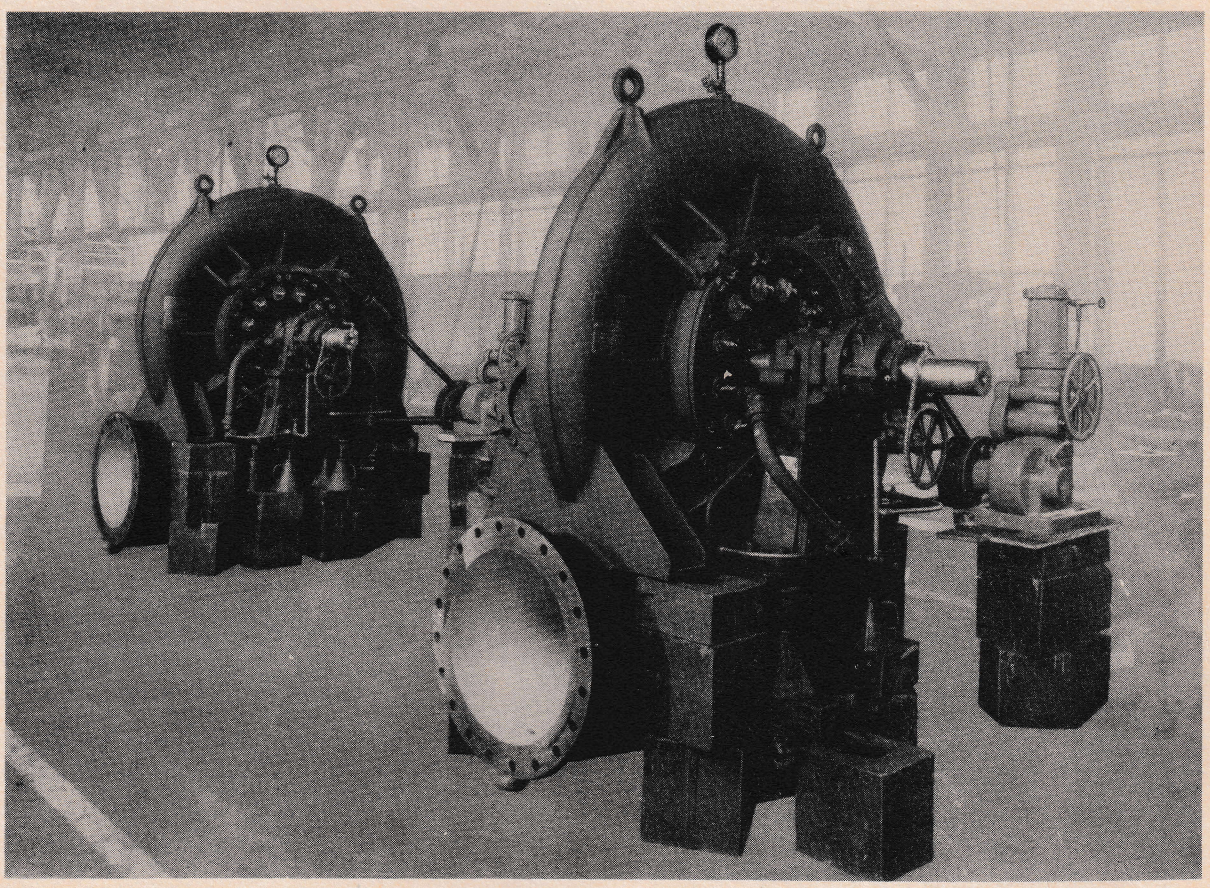
Turbine Topics

Vol. 1 No. 8 Issued For and By the Employees of S. Morgan Smith Co. Nov., 1943



FRANCIS TYPE TURBINE FOR HIGH HEAD

" Details—Their Importance "

SEE PAGE 2 FOR FEATURE ARTICLE

James D. Scoville, Assistant Chief Engineer

One of our best liked and most respected personalities and one who has brought great credit to our company is our Assistant Chief Engineer, James Douglas Scoville. He joined us in 1920 from Wellman-Seaver-Morgan Company, of Cleveland, Ohio, where he had been employed after graduating from Rensselaer Polytechnic Institute, Troy, N. Y., in 1918.

Jim immediately tackled the job of improving the efficiency and output of our then existing hydraulic turbine runners and developing new types. A great deal of the credit for our excellent line of runners over the full range of specific speed belongs to him. His efforts have not been confined to runners, however, and great strides have been made under the direction of our Chief Engineer, George Jessop, and Jim Scoville in the development of new draft tubes, intakes and improvement of all parts of our turbines.

Another important phase of Mr. Scoville's professional career is the conducting of performance tests in the field. His knowledge of hydraulics tempered by experience, together with his ability to apply this experience and to impart it to others, places him in the front ranks, not only within our own company, but among the foremost hydraulic and mechanical engineers everywhere.

DETAILS . . . THEIR IMPORTANCE

By James D. Scoville

It is generally recognized that to realize high efficiency from a turbine the hydraulic design features must be correct. The intake and scroll must be such that the water approaches the wheel smoothly, without turbulence. The gate and runner design must be substantially correct, so that a minimum of losses occurs. These can be either eddy or turbulence losses or hydraulic friction on the runner and gates. The surfaces must be smooth. When the water leaves the runner considerable energy remains in it in the form of velocity. By expanding the passage area as the water travels through the draft tube, this velocity is reduced and thereby produces an additional suction on the runner which increases its output and efficiency.

However, the efficiency of the unit may be poor in spite of the excellence of the hydraulic design if proper attention is not paid to manufacturing details of the turbine. It is the purpose of this article to point out the importance of some of these details.

We have found by experience both

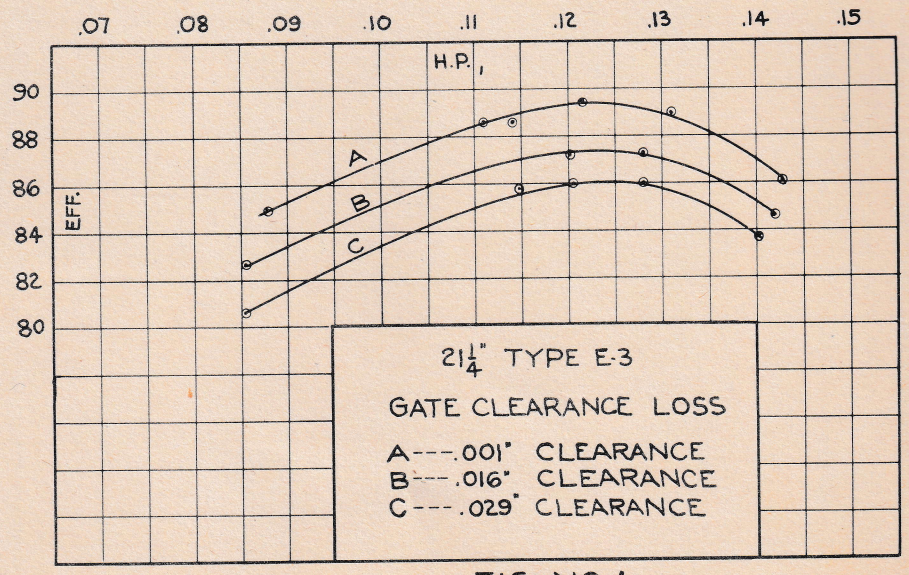


FIG. NO. 1

in the field and in the laboratory that excessive clearance between the contact surfaces of the gates with the top and bottom plates produces losses which are appreciable.

Some years ago we built three turbines which were designed for a capacity of 55,000 H. P. each under 820 feet head. It so happened that no test was made on the plant until the first unit had been in operation for nearly a year. This plant was located on a stream which was contaminated with sulphates, discharged from a paper mill. The water was highly corrosive and in that period the turbine gate clearance had increased to .058″ by corrosion and erosion. The field test showed a maximum efficiency of less than 84%.

After considerable discussion, it was decided to study, on a model, the effect of this excess clearance. Tests were made on a 21¼″ E-3 runner. Fig. No. 1 shows the result. These tests were made under a head of only ten feet. The curves, however, are the computed horsepower at one foot head plotted versus measured efficiency. It will be seen that a total gate clearance of .016″ caused a loss of 2.0% in efficiency and a clearance of .029″, a loss of 3.5%. The gate clearance of .058″ on the 90″ runner roughly corresponds to a clearance of .016″ on the model. While this did not look too encouraging as a solution, it was decided to weld up the gates on the 90″ runner with stainless steel and install a stainless steel wearing plate so as to reduce the clearance and eliminate future corrosion.

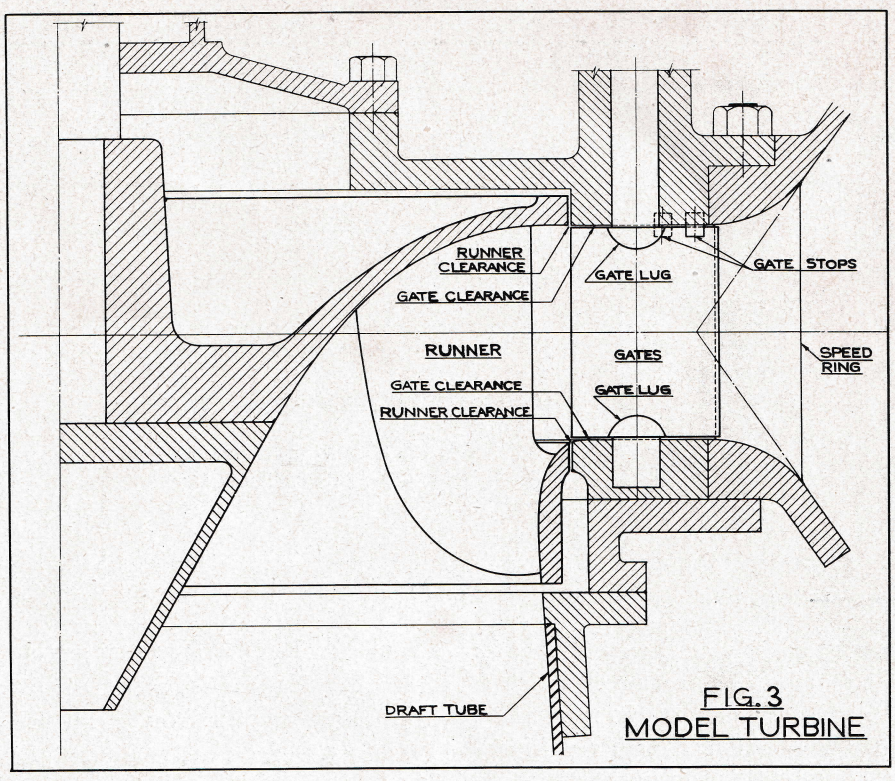


FIG. 3
MODEL TURBINE

Fig. No. 2 shows the results obtained before and after the repairs. The only change on the turbine was the decrease in gate clearance, but its efficiency was increased 6%, or three times as much as was obtained proportionally on the model, under 10 feet head. It is evident that loss was greater because of the much higher head.

This loss is caused by the "sheets" of water escaping between the gates and the top and bottom plates in a radial direction. These two thin "sheets" of water mix with the flow which is guided by the gates in a tangential direction. The turbulence caused by the meeting of these two streams is the cause of the loss of efficiency. It is to be noted that there was also a loss of 3,000 horsepower because of the excess clearance.

Another cause of loss in efficiency is excessive clearance between the runner and the stationary seal rings. This is a direct leakage loss, the water by-passing through this gap is wasted instead of doing work on the runner.

This loss can be calculated approximately and has been checked in the laboratory by model tests. The

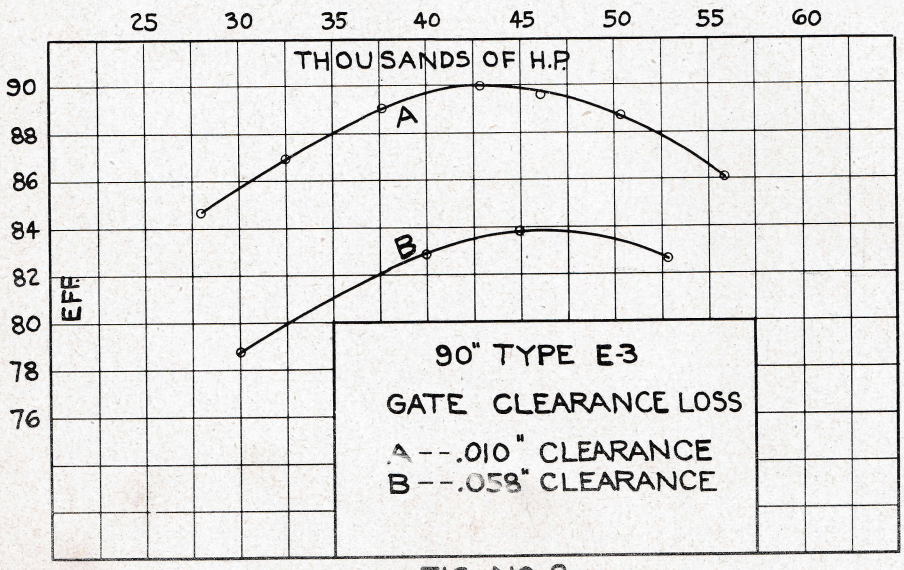


FIG. NO. 2.

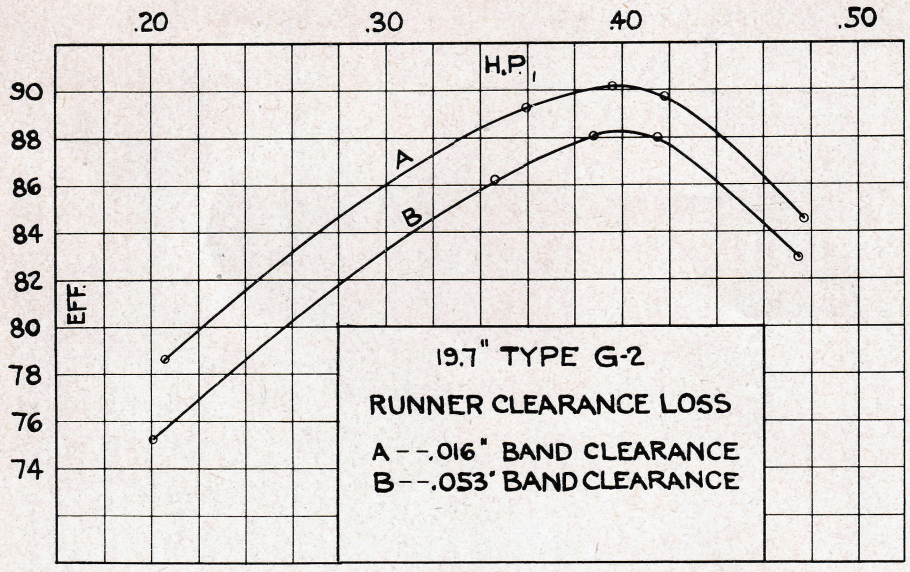


FIG. NO. 4

model used in one instance was the 19.7″ type G-2, a runner which is suitable for heads of 160 to 200 feet. We have obtained higher efficiency with this design of runner than on any other of our manufacture. In fact at the Saluda plant, we reached the extraordinarily high efficiency of 94.5%. This was on a 50,000 H. P. turbine at 170 feet head. Such a performance could only be realized by proper attention to all details.

Fig. No. 3 is a section of the model turbine tested. The comparative results are shown on Fig. 4. For these two tests, only the clearance at the runner band was changed. They show that by increasing the band clearance from .016″ to .053″, a loss of 2% in efficiency occurred.

It might not seem too important just how the runner is located in the casing as long as the band and crown do not project into the water channel. Tests have been made to find out if this is so. On Fig. 5 are shown two model performance curves. For one of them, A, the top surface of the band was just flush with the bottom plate so that the passage was smooth. The runner was then lowered .031″ for test B and a gain of one-half per cent in efficiency obtained. Evidently, by lowering the runner in the case, the water passing over the downward offset of the clearance gap produced a suction effect on the gap, which reduced the leakage loss. This is a small detail but a half per cent in efficiency is of considerable importance. For instance, a few years ago we built two 5,000 H. P. turbines on which there was a penalty of $18,000 for each per cent per turbine that the field efficiency was below the guarantee. A half per cent could have cost the company $18,000 on this job.

Sometimes, due to the allowance for finish on the gate stems, there are left on the gates, at the top and bottom where the stems join the body, lugs which must be carefully ground so that there is a minimum of obstruction to the water flow. On small and medium sized turbines stop pins are used on the top plate to prevent the gates from swinging, in case of breakage of the gate links. Both of these obstructions can cause an appreciable loss of efficiency if proper care is not taken. Fig. No. 6 shows the combined loss due to lugs on the gates and stop pins on the top plate.

Gate and runner clearances are more important with high head Francis turbines and less so with propeller or Kaplan wheels. Obstructions which cause turbulence in the water flowing to the runner can be more damaging on the Kaplan type of runner than on the high head Francis. However, an obstruction ahead of the runner can cause pitting on any type.

These tests show the importance of some of the details of a turbine in realizing the maximum efficiency. Proper attention must be given to details to get the best performance and long service.

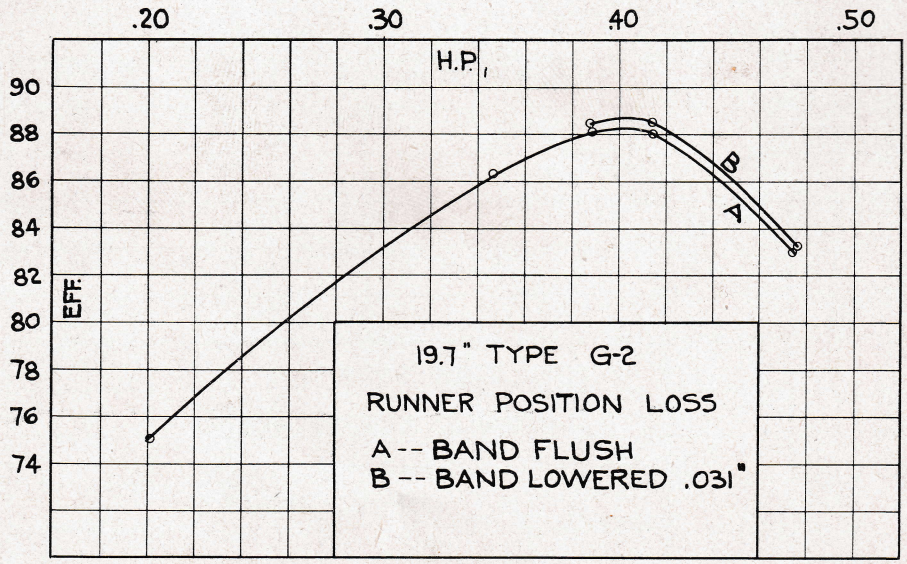


FIG. NO. 5.

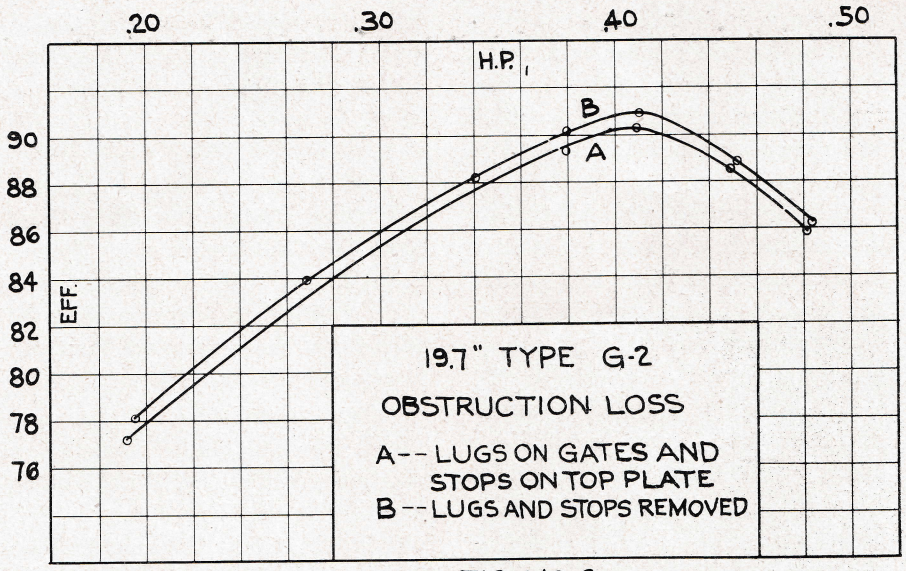


FIG. NO. 6.

READ — TRY — LOOK

By Edward L. Rogers

"The Shop Quiz" has been started with the idea in mind to stimulate interest within our shop about subjects which many of us think we know all the answers but really do not. We hope that all our "Turbine Topics" readers will try these tests, score themselves and then investigate the answers which differ.

You will find that this quiz will increase your general shop knowledge and also afford you something to discuss among yourselves. More detailed information will be furnished by the author upon request. The author of these questions and answers does not claim to be the last word of authority on the subjects discussed and will appreciate any corrections or additions that the readers may care to make.

THE SHOP QUIZ — COMPRESSED AIR

No.	*Question*	*Answer*	*Score*
1.	How many air compressors are available in our shop for the air pressure supply? (a) two (b) three (c) four	( )	( )
2.	Our large air compressor has a rated free air delivery of (a) 750 cfm (b) 1000 cfm (c) 2500 cfm	( )	( )
3.	If all our compressors were operated at the same time they would have a combined free air delivery at 100 lbs./sq. in. of approximately, (a) 3000 cfm (b) 2200 cfm (c) 1700 cfm	( )	( )
4.	Assume that we have a certain air pressure carried in a 1½" pipe line. This line would be sufficient to supply, without any undue pressure drop, the following number and sizes of outlets: (a) four ⅜" & two 1" (b) four ¾" (c) one 1" & one ½"	( )	( )
5.	The cost of 1000 cubic feet of free air compressed to 100 lbs./sq. in. is approximately (a) ½c (b) 10c (c) 6c.	( )	( )
6.	The cost of power derived from compressed air when compared to an equal amount of electric power is (a) cheaper (b) same (c) more expensive	( )	( )
7.	A leaky air line with an area of leakage equivalent to a ⅛" diameter hole would cost how much per month if we operate 8 hours a day and 26 days per month? The line pressure being 100 lbs./sq. in. Use the estimate you made in Question No. 5 for the cost per 1000 cfm of air. (a) $1.29 (b) $10.80 (c) $19.09	( )	( )
8.	On a compressed air system which is not properly protected by the use of an aftercooler it is possible that we may get as much as ( ) gallons of water precipitated from the air into the lines and through the tools in a 12 hour day. (a) 12 gallons (b) 156 gals. (c) 82 gals.	( )	( )
9.	Water in the air lines normally comes from: (a) Leak in the water cooling system on the compressor. (b) From the air being compressed. (c) From the oil used to lubricate the compressor cylinders.	( )	( )
10.	Using a ¼" pipe nipple instead of a ⅜" nipple will result in reducing the air passage what percentage? (a) 45% (b) 15% (c) 5%	( )	( )
11.	The average air tool is designed to give the best performance at what air pressure? (a) 65 lbs./sq. in. (b) 90 lbs./sq. in. (c) 110 lbs./sq. in.	( )	( )
12.	In the case of pneumatic tools, a five pound per square inch drop in pressure will cause a loss in performance of approximately (a) 2% (b) 5% (c) 10%	( )	( )
13.	When compared to electric tools the air tools have the advantage in regards to (a) Speed control. (b) Light weight line connections. (c) Power source always available.	( )	( )
14.	It takes ( ) power to operate an air compressor at a given pressure and delivery in the winter than it does in the summer. (a) More (b) Less (c) No difference	( )	( )
15.	The most harmful damage to air tools comes from (a) Water in the lines. (b) Operating at low pressure. (c) Too much oil and grease.	( )	( )

ANSWERS TO THE SHOP QUIZ

Score 2 points for the first question and 7 points for each of the other questions.

1. — (b) 4. — (b) 7. — (c) 10. — (a) 13. — (a)
2. — (b) 5. — (c) 8. — (b) 11. — (b) 14. — (a)
3. — (c) 6. — (c) 9. — (b) 12. — (c) 15. — (a)

UP and DOWN the AISLE

On Thursday evening, October 7, at 10:15 P. M. Lillian L. Lauer, 589 W. Market street, died at her home after an illness of approximately six months. Death was caused by complication of diseases.

Lillian was born April 12, 1907, in York county, and received her schooling at the Weigelstown county school, Lincoln school, York, and graduated from Thompson's Business college in 1931. She started her employment at the S. Morgan Smith company in 1923, and would have completed twenty years of continuous service with this company on October 31. During that time she worked in the Cost Dept. under Paul Gise, then in E. U. Gibbs' office, inventor of the Gibbs thrust bearing, and at his death in June, 1930, was transferred to the general Stenographic Dept., where she worked at one time or another for most of the Sales, Purchasing and Service departments personnel.

Those with whom Lillian came in contact have felt her passing very keenly. She will always be remembered by her fellow employees as a truly unselfish person who was sympathetic and understanding. She was very friendly and had a cheery greeting and smile for all. The men for whom she worked have always had the highest praise for her and her work. There is no doubt but that the S. Morgan Smith company has lost a very faithful and conscientious employee.

Funeral services were held Monday afternoon, October 10, at 2:30 P. M. from Faith Reformed church, the Rev. A. C. Robinson officiating, and interment was at Salem church cemetery, Dover.

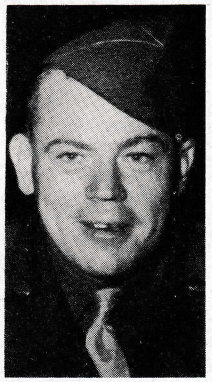
The following employees served as pall-bearers: George Jessop, Jacob Fisch, Harold Seitz, Charles Farscht, Charles Firestone and Walter Rohrbaugh.

She is survived by her mother, Mrs. Ella Lauer, and the following brothers and sisters: Mrs. Bertha Shellenberger, Russell, Reuben, Virgie and Washington, and Mrs. Ethel Horn and Mrs. Evelyn Leib.

* * *

During October there was some fancy horse shoe pitching over the noon hour as the boys played off the semi-finals of the horse shoe tournament with the following results: Team 6, Art Hartman and Art Palmer, 25—Team 2, Harold Miller and Robert Miller, 18; Team 5, Nevin Dietz and Don Hartman, 25—Team 1, John Kunkle and Laurence Vaughn, 3; and Team 7, Dick Myers and George Dietz, 25—Team 4, Whitey Myers and Chester Baugher, 17.

* * *



Pfc. Charles Hoke, a former employee in Dept. B, who visited us while on a furlough last month. He began working here on August 27, 1941, and left for the service March 20, 1942. Charlie, whose picture in his "work uniform" appears on page 11, is stationed in Camp Cooke, Calif. The boys in Dept. B and the whole shop hope to see him again soon.

* * *

S. M. S. employees are making not only their dollars but their blood fight too. On October 26 a "Volunteers Wanted" sign was posted, asking for thirty employees to visit the Red Cross blood bank on Thursday afternoon, November 4.

When November 4 rolled around the S. Morgan Smith company was represented at the blood bank by 65 employees—Rudolph Crouse, Harold Miller, Albert Gotwalt, William Myers, Hilda Miller, Arthur Palmer, George L. Dietz, Lester Snyder, Gene Shindel, Richard W. Keffer, Ralph E. Sell, Walter Rohrbaugh, John D. G. Fry, Jr., Reed Everhart, George Hochwalt, Romaine Shaffer, Vivian Smith, Elsie Elicker, E. Everett Pierce, Jr., Leon Eisenhart, Kenneth Morningstar, Sara Craley, Harold Seitz, Walter Hollingshead, Charles Firestone, Harry Smyser, Oscar Weber, J. T. Lytle, Quinten Bubb, T. S. Norbom, Paul Strayer, Charles Spence, Lloyd Wilt, Donald Thompson, Ervin Sterner, Arthur Hartman, Mary Burger, Nevin Dietz, William Sterner, Richard Myers, Laurence Reever, Ervin Frigm, Robert Flohr, George Dunn, Edward Wills, William Kling, Raymond Miller, Paul Kopp, Cornelius Nicholas, Harry Raber, M. T. Messersmith, Edgar Kinley, Clair Rusher, Chester Krall, Herndon Taughinbaugh, Richard Aubitz, Russel Fetrow, Charles Weisner, Paul Warner, Joe Warner, Elizabeth Constantine, T. K. Breda, Jack Oerter, Howe Lagarde, and B. E. Smith.

* * *

Howe Lagarde, of Dept. B, returned to work on October 24 after a four-day vacation. Howe visited his home on the Eastern Shore, Maryland.

Ed Rinehart, who is helping on the yard gang during the summer and firing the boilers in the cold season, had an unusual bowling event last month. While on his way home, Ed tried to push a car out of his way at the corner of Richland avenue and Market street so he could cross the street. But the car won out and Ed was bowled over. Better luck next time a car gets in your way, Ed.

* * *

Vivian Smith, of the Main Office, received a present several weeks ago all the way from India, where "Her Bill" is stationed—an insignia bracelet and ring to match and a bracelet and ring set with Burma rubies, all handmade by the natives. Vivian had almost given up hopes of ever receiving them, as they were almost six months in getting here, but thinks they were worth the wait.

* * *

Henry F. Bulk, a retired employee of our company, died suddenly on October 20 at his home, 500 Smith street. He was 79 years old. Funeral services were held on Saturday, October 23, in the afternoon.

* * *

Gordon Drescher, MM 2/c, and Geraldine Mae Crawford were married by the bride's father Saturday evening, September 4 at 7:30 in the Second U. B. church. A reception was held at Bierman's following the ceremony and the couple honeymooned at Charleston, S. C., where Gordon reported for further assignment. Congratulations and best wishes!

Gordon was an apprentice machinist here for a year before he entered the Navy in September, 1942. William Drescher, who works in the Tool Room, is Gordon's father.

* * *

Charles A. Shettel at his desk in the stock gallery. Since 1890 Charlie has been working for the S. Morgan Smith company. However, illness has

prevented him from being in the shop since January of this year. Charlie is the oldest "Old-Timer" in years of service. Illness also prevented his being present at the service pin party in June and being presented personally with his 50-year service pin. Hope you will be back on the job soon again, Charlie.

* * *

The employees of Dept B. held their annual oyster bake at Kunkel's mill on Saturday, October 16. Although it rained most of the afternoon a good time was had by all.

* * *

On Wednesday, October 27, at 11:14 P. M., Mrs. Harry Boyer gave birth to a 9½ pound baby boy. Dept B's Harry, better known around here as Hemlock, had to buy a new shirt besides the cigars because he is the proud papa.

* * *

One of our attractive young ladies started a three months' course of study at the Powers Model school, New York City, on Monday, October 25. We are referring to Ruth Jamison, who for the past eight months has been our mail clerk. We are sorry to have Ruthie leave us, but are glad that she has been given an opportunity to realize her greatest ambition. She hopes to be a photographic model.

As a farewell gift, the girls of the Main Office presented Ruth with a beautiful white satin slip. Lots of luck, Ruthie.

* * *

Hilda Knaub, clerk in Dept. B, received a very nice surprise when her mother came to visit her for two weeks last month. Hilda's mother lives in Edinburg, Va. On October 31 Hilda left York to visit her husband who is serving in the Army and is stationed in California.

* * *

We welcome Frances Lefever, who replaces Ruth Jamison, as mail clerk. P. S.—Frannie is a V-E-R-Y good friend of Max Gladfelter, one of our former mail clerks, who is at present in the Navy.

* * *

Naomi Lindsay, Dept. C clerk, had something to be thankful for slightly in advance of Thanksgiving Day this year. On October 19 her husband, Cpl. Clark Lindsay, Jr., arrived from Drew field, Fla., for a week's furlough.

* * *

One WAC second lieutenant plus one Army second lieutenant equals one military wedding and a host of best wishes and congratulations to each of the newlyweds. On Friday, October 15, at 5 o'clock in the afternoon, Second Lieutenant Mary Elizabeth Fehl, daughter of Mr. and Mrs. Edwin C. Fehl, 498 Linden avenue, and Second Lieutenant William H. Musser, Jr., son of Mr. and Mrs. William H. Musser, 574 Madison avenue, were married. The double ring ceremony was performed by the Rev. Giles C. Barrett, post chaplain, in the post chapel at Fort Blanding, near Jacksonville, Fla.,

UP and DOWN the AISLE

where Lt. Musser is stationed. First Lieutenant Francis Gilfoyle, of New York City, gave the bride in marriage. The matron of honor was Mrs. Kenneth E. Landis, York, and the bridesmaid was Second Lieutenant Mary Frances Diehl, formerly from York and now stationed at Camp Blanding, Ga. For his best man Lieutenant Musser had Flight Officer Kenneth E. Landis, a former Yorker now stationed at Camp Douglas, Ga. The soloist was Cpl. William George and the organist, Cpl. Paul Creech. The bride and groom wore Army dress uniforms, and the bride carried a white prayer book with white orchids.

Mrs. Musser was graduated from the York public schools and attended Thompson's Business college. She received her O. C. S. training at Fort Des Moines, Iowa, where she was commissioned a second lieutenant upon graduation. She is now stationed with the WAC detachment in Daytona Beach, Fla.

Bill is a graduate of the York high school, and worked as a clerk in the Cost Dept. from November 4, 1933, until June 30, 1941, when he entered the armed forces. He received his O. C. S. training at Fort Washington and was commissioned a second lieutenant upon graduation in June, 1943. He is in a Machine Records Unit, mobile.

Following the wedding ceremony a reception was held in the Seventh Detachment Officers' mess. Then the couple left for a short wedding trip to St. Augustine, Fla.

Bill's father, William H. Musser, Sr., is Auditor and Asst. Secretary of the company.

* * *

Last month the Plate Shop gang received a letter from their one-time clerk, Emma Miller, who has now resumed her study of music at Lebanon Valley college. They thought her other friends throughout the shop would like to hear about her doin's at college, so submitted her letter to the editors:

"Hello everyone,

"It's 12 P. M. and the radio is tuned to 'When You Wore a Tulip.' It sort of makes me a bit homesick for the Hill Billy band and S. Morgan Smith Co. How is everything and everyone?

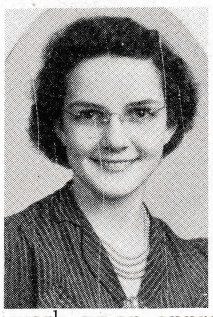
"Well, I've been a school marm for all of two days. Yes! I've been teaching a darling (?) fifth grade how to sing and believe me! . . . that's a job that should pay time and half time. I certainly have no chance to read magazines or heckle anyone, Mr. Shanabrough!

"Besides my regular college work and practice teaching, I have an instrumental and band job at Central Catholic high school in Reading. Every Friday is spent there in an attempt to "whip up" a decent sounding band.

"How's Chris and Ken . . . Earl, Gus and Buppie? Tell Bubb I said we sure could use him in our symphony orchestra . . . violin shortage, you know.

"Better put a comma here, and hope you'll write a few lines in your one and only spare moment.

"Cousin Emmy."



Mary Crone, the new Weld Shop clerk, who is doing a fine job of keeping the time records in shape. Mary's husband, Spurgeon, used to work as an apprentice in the Plate Shop. He is now a corporal in the Army Air Corps. On May 20 of this year the Crones became the proud parents of a baby boy, named Kenneth Elmer.

About four weeks ago George D. Johnson, better known to us as Dugan, was awarded a patent on an invention pertaining to rotovalves. Normally the tapered valve plug when it is partly open has a tendency to close and requires considerable force to keep it from slamming shut. Mr. Johnson's invention consists of a means of improving the hydraulic balance of the plug so that much less force is required to hold it in a partially open position.

Dugan boasts the honor of being the youngest engineer in the Engineering Dept., and holds the degrees of Bachelor of Arts "cum laude et cum honore" from St. John's college, Bachelor of Engineering in Civil Engineering and Master of Civil Engineering from Johns Hopkins university. He has been an S. M. S. employee since February, 1937.

* * *

Sergeant of the Guards, Paul Grissinger, and his wife spent the week-end of October 24 in Philadelphia, where they viewed the sparkling Ice Capades of 1943, on one of its opening nights in that city.

* * *

On Friday, October 29, June Kehoe, Dept. C clerk, boarded a train for a visit with her soldier-husband in Michigan.

* * *

Blanche E. Armold, granddaughter of Mr. and Mrs. F. H. Wagaman, New Oxford, and Raymond F. Staub, son of Mr. and Mrs. George Staub, McSherrystown, were married at 7:30 Saturday morning, October 23, during a nuptial high mass ceremony at St. Mary's church, New Oxford. The Rev. Father Hartness, pastor, officiated.

The bride wore a gown of white marquisette lace and her mother's bridal veil. She carried a bouquet of white chrysanthemums and roses. Her only attendant was Pauline Gephart, New Oxford, who wore a

gown of pink taffeta, styled in old fashioned lines. Her headdress was a pink satin bonnet with a shoulder length veil, and her flowers, yellow chrysanthemums. For his best man the groom had Clyde Armold, York.

The groom is employed by the Jacobs Shoe company in Hanover. Blanche had been an S. M. S. employee for almost a year, first as a clerk in the Tool Room gallery and then as mail clerk for the entire plant.

The Shop Office gang expressed their best wishes to the newlyweds by having two mysterious packages delivered to Blanche on the last day she worked here. Blanche is pictured above with her two gifts—a blue chenille bedspread and a miniature wash basket containing such housekeeping necessities as mouse traps, celery salt, fly paper, baking powder, etc.

The couple will reside in their newly furnished apartment at 427 North street, McSherrystown.

* * *

We regret to hear of the death of Mrs. Samuel Hoke, 1013 N. Duke street, North York. Mrs. Hoke died Saturday, October 30, at 9 P. M. in the York hospital where she had been a patient since Thursday. Two of her sons work in our plant: Vernon, Dept. B, and William, Dept. C. Her son, Charles, is a former employee who is stationed with the U. S. Army in Camp Cooke, Calif. We extend our sympathy to these three sons and the rest of the family.

Wilbert C. Shaffer, of the Navy Dept., who has been in ill health for some time due to an unknown cause, reported to the Veterans hospital in Coatesville for observation, and has been transferred to another institution. Shaffer is a veteran of World War I. The gang hopes he will be back on the job with them soon.

* * *

Parking meters are red,
Violets are blue,
On Saturday evenings,
I can think of nothing but you.

* * *

WELCOME! New Employees

Mary Elizabeth Boyer, mail clerk; Myrtle I. Bayman, secretary in Engineering Dept.; Mary Ellen Crone, Weld Shop clerk; Edgar W. Stover, guard; Martin D. Heffner, guard; Paul F. Glatfelter, guard; George L. Harlacher, guard; Florence B. Pfeiffer, Tool Design; Charles G. Bobbitt, Navy; Lovella Kochenour, Time Study; Alfred C. Rock, C; Frances Lefever, main office mail clerk; Alice Leber, nurse; Ivan E. Zimmerman, Sr., Floor 1; Wayne B. Kahley, Stores and Receiving; and Augustus I. Krantz, Floor 3 and 4.

* * *

Sgt. Gordon B. Wecker, who is stationed at Camp Chafee, Ark., and who recently was in York for a 15-day furlough. Sgt. Wecker spent some time visiting around our plant and also swapped yarns with his former co-workers in the Contract Service Dept. Gordon had worked here for four years before he entered the Army on August 29, 1942. We were all glad to see him and hope to have him with us again very soon.

DID IT EVER HAPPEN TO YOU?

Let's drink a beer and give a cheer
To the roving cameraman.
For he's the gent, who is all hell-bent
To super flash your pan.

"Don't look at me, look over there,
Now straighten your tie and comb your hair;
I believe a smile will improve your map;
No, you can't have the clerk upon your lap."

Your friends gather round, laugh, shout and "kibitch"
There's a fly on your nose and your chin starts to itch.
At last all is ready, click! and the ordeal is thru.
Like heck it is, brother, cause he wants a side view.

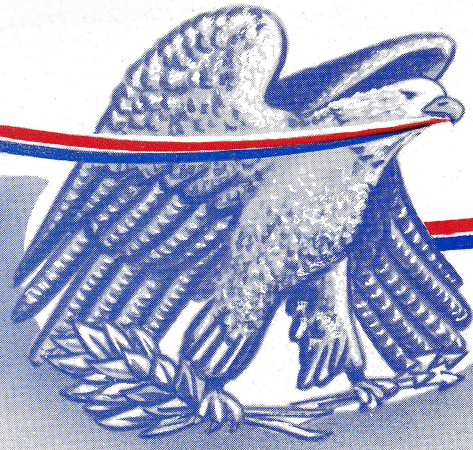
When at last "Turbine Topics" comes out,
And you see that smirk on your fiz,
Your family all rise up and shout—
"That can't be you!"—But it is.

By Frederick Orfella Meisenhelter.

* * *

"Dine in India at the Rajah restaurant" . . . but don't forget to take John Andrews, Floor 1 inspector, with you as a guide. He'll translate the Indian menu for you (with the aid of a native waiter, of course), and when you are served small portions of food which you are to mix up yourself to form the various dishes, you'll find that John is an expert—at calling a waiter to help you. He has gotten his master's degree in getting along in an Indian restaurant as a result of a recent New York visit with John Spangler, Floor 1, during the World's Series games.

On November 1 Morgan Billet, foreman in the Navy Assembly Dept., returned from a week's vacation in and around Nashville, Tenn. He was visiting his son who is in the armed forces and at present on maneuvers in this territory.



HONOR ROLL

For Employees of S. Morgan Smith Co.

Who Have Joined

THE ARMED FORCES

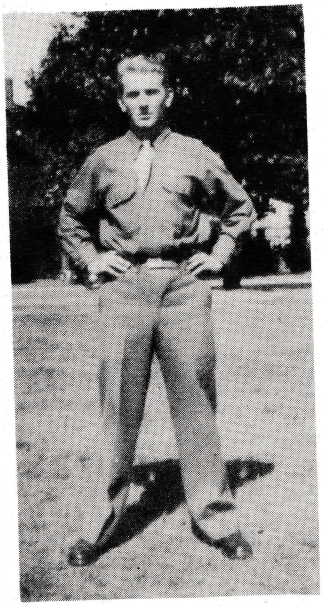
R. ADREON
C. ANSTINE
J. AVIS
W. BAILEY
W. BAIR
E. BAKER
M. BIEVENOUR
S. CRONE
G. DRESCHER
C. HOKE
R. KETTERMAN
H. LEIBENKNECHT
C. MEISENHELTER
R. MEISENHELDER
W. MUSSER
I. McHENRY
C. RAIFSNIDER
H. STRAYER
J. STROBECK
G. WECKER
C. WILT, JR.
F. KINLEY
R. McWILLIAMS
G. WINAND
E. CUSTER
G. KOHLER
L. LIGHTNER
J. McHENRY
R. MYERS
W. SENFT
J. SHAFFER
J. DELLINGER
A. WELTY
J. ROWE
R. SPRENKLE
W. TEST
H. ELICKER
W. BENNINGTON
K. HEINDEL
J. McSHERRY
D. REID
N. VanHORN
L. FISHEL
R. SPONSLER
J. BOECKEL
J. BOLLINGER
A. BORING
M. GLADFELTER
R. RAUCH
C. RUDACILLE
R. KRESSLER
D. SNYDER
P. SMITH
G. EARLY
S. RAUHAUSER
J. YOUNG
H. HESS
E. GEIST
C. REISINGER
R. GROSS
R. HESS
C. MILLER
W. SMITH
C. HAMME
W. SMITH
K. REEVER
R. SHEFFER
R. WOLF

KEEP IN CONTACT—WRITE TO THEM OFTEN

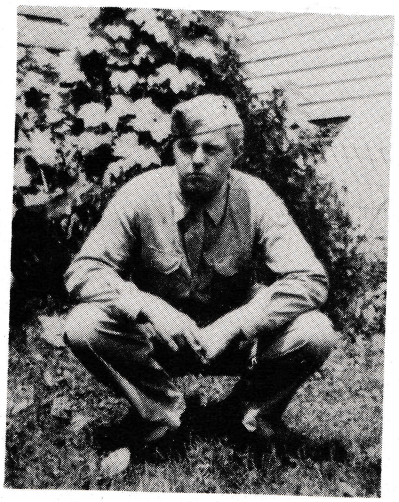
SEE PERSONNEL OFFICE FOR ADDRESSES

★ ★ ★

Pfc. William H. Bennington



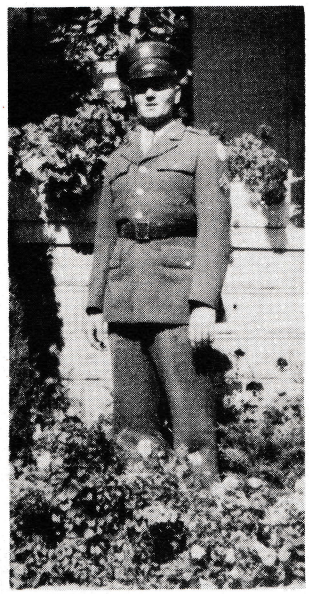
Pvt. Robert C. Kressler



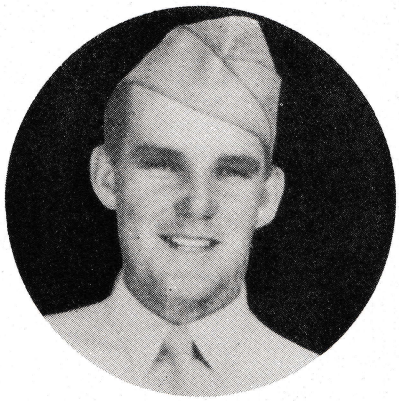
Pvt. Austin Boring

Pfc. Charles Hoke

A/C H. Jack McHenry



Cpl. Robert Sprenkle



Pvt. Leo A. Fishel

V ◇ ◇ ◇ — MAIL

Sept. 26, Greensboro, N. C.

Thanks, friends, for those V notes and interesting "Turbine Topics" booklet. They go a long way in boosting our morale, not only because of the money value, but they also remind us that you, our pals, at home are thinking of us.

No doubt you fellows who back us would like to know a little about our training. There's not much to say, because this base is only a basic training center. The purpose of this training is to make the body withstand most anything. This is accomplished by strenuous exercises, known as P. T., or physical torture. Every day we run cross country for at least three miles and have extended and close order drill. Two days a week each soldier parades. To make sure everyone has something to do, details such as K. P. and guard duty are included. They seem to like the way I wash trays.

I am at present classified as an ordnance machinist and after basic expect to attend a machinist refresher school.

Usually the young men like Don Hartman, Dick Wolf, and even Tom Faircloth (just kidding, Tom) like to hear a little about the women from various sections of the country. Here in Greensboro they're outnumbered 100 to 1. Usually tall, slender and good-looking. Now, Don, don't get excited, I still prefer the Pennsylvania style.

I deeply appreciate the interest that the management and employees of S. M. S. Co. have in their fellow employees who are now in the service. This interest stimulates the fighting spirit within us with a stern determination to get this duel over with soon so that we can return to work and manufacture the best water wheel in the world.

I would like to hear more from the fellows in the shop. Will write as much as possible.

ROGER McWILLIAMS "PVT. MACK."

Sept. 22, Camp Lee, Va.

Received the "Turbine Topics" today, the September issue. I also received my V note the beginning of the week.

Well, a lot has happened since I last wrote. After teaching school I worked in the office. I then received my furlough and came home from Camp Ellis, Ill. I came through the shop and saw a few of the fellows. My time was limited because I spent half of it in Washington, D. C., with my parents. Oh, yes, Bill Lowder. My wife got a hold of that homemade toy and I haven't seen it since.

I sold my car and bought a lot 60' x 125' near where Eagle park used to be. So after the war my wife, Margie, and I will build a home and start our family.

When I came back to camp I was promoted to a corporal. We then went on bivouac—camping in the woods, sleeping on the ground in our pup tents. A lot of fun. At the beginning of the second week it was called off, and we were on the alert. We went back to the camp and started packing and crating, etc. I was very happy because we were leaving for Camp Lee, Va., a 5 to 6 hour drive from York, Pa.

I was made a ward master in the dermatology ward where I am now, working from 7 to 7. By the way, my father-in-law, "Cap Trimmer," in the Pattern Shop was in the medical corps in the last war and was a ward master also.

Dermatology (skin disease) is very very interesting. Some of our cases are poison oak on the hands, secondary syphilis, hyperkeratotic eczema (an acute or chronic inflammatory disease, characterized by erythema, papules, vesicles, pustules, scales, scabs or crusts, alone or in combination with associated thickening and infiltration, and more or less attendant itching and burning). A good many of our patients have this. We have a lot coming in now with scabies.

There are 8 of us in the dermatology ward and they are going to pick out the best one and leave that person go to work in the dermatology ward, which is the most and best experience we can get. We are all wondering who will be the lucky fellow.

Well, I've written about long enough. I will be coming home on a week-end pass in November, and will try to get through the shop that Saturday morning.

I want to thank you all for the V note and especially the magazine, because I look forward to it. It grows bigger and better, and the pictures of the shop and fellows give it the home touch. What does "Norm" Weaver do that he is out in front on that picture and the rest are inside of the scroll case? The two proud fathers, "Hakie" and Johnnie, should have stood out. Laying all jokes aside, though, it is a good picture. A scroll case was the first thing I worked on when I started in the Pattern Shop.

Till we meet again,

BOB SPRENKLE.

Oct. 16, Camp Edwards, Mass.

I am writing you a few lines to let you know how I am and what I am doing. I am feeling swell and pretty strong. We are working hard lately, about 14 hours a day. I am on the machine guns, and our battery has four water cooled 50 caliber, four water cooled 30 caliber, four air cooled 50 caliber guns. That makes 12 machine guns our battery has and then they have four 90 mm anti-aircraft guns and four power plants. We have a director, range finder, radar. We shoot 30 caliber rifles, and they are gas operated. They sure have the kick, but I like it. I could go out on the range and shoot every day if they would let me. We were out on a week's bivouac and we had all the guns and the other things along. The weather up here sure is cold and damp. It rains most of the time and sometimes we have sand storms. We got four 50 caliber guns the other week and they shoot 600 rounds a minute, and do they have the power. There was a B-26 bomber towing a sleeve target and that is what we were shooting at. The 90 mm knocked down three sleeves and that was pretty good.

How are the fellows at the shop? I hope they are working hard so they can get this war over quick. We are doing all we can to finish this war ourselves. I sure miss working in Dept. A. The fellows there are all swell and I like working with them. We had our arguments, but the next day it was forgotten.

V ◇ ◇ ◇ — MAIL

I received the money orders and I want to thank you for them. I sure could use it, because you spend a lot of money up at this place. You must get a haircut every week and you must be shaved every morning. Your shoes must be polished every day. You must clean your rifle every day. We cleaned machine guns every night this week, because when you fire them a good bit, like when we were out on the week bivouac, you have to. We had to clean them for five straight nights.

I am going on guard this evening at 6, so I stop for now. Tell the fellows to write. I will be glad to hear from them. Well, so long, everybody, and take good care of yourselves, and don't forget to write. I look for letters every day from someone in Dept. A. I got a letter from Raymond Baum and Kenneth Weaver, and I sure was glad to hear from them. The best of luck in the world to all of you.

BOB HESS.

October 1, England.

I am sorry I haven't written before this, but this is my first chance to write. We have just settled and have plenty of work to do here.

I was glad to receive the note from the victory boxes. Here we are paid in pounds. I guess I better tell you where I am—some place in England. It is strange to see such small railroad cars. If the states had small cars like these it would take one car for each runner blade for 60161.

How are all the boys doing? I haven't received any mail from any of them. I would like to hear from them. I sure would like to be back there with S. M. S. for the short time I was there. I never enjoyed working for anyone till I started with S. Morgan Smith. It is one swell company. I hope some day I'll be able to come back to see you all.

EARL CUSTER.

October 3, California.

Well, I promised to write you a letter some time ago, but I am just now getting around to doing it. I have already told you I have moved from Fort Sam Houston, Texas, to the desert out here in California. All we see is sand and sagebrush. It gets so hot during the day we almost cook, and at night it gets so cool we cover with a comfort and two blankets. We sleep in tents with four men to each tent. We have folding cots that we sleep on. Our passes out here are limited to one week-end pass a month. I have already had mine. I went into Los Angeles, which is about sixty miles from here. It is a city about like any of our large eastern cities. While I was there I went over to Hollywood and visited the Hollywood Canteen. They had a number of movie stars there to entertain the service men. I got autographs from Dick Powell, June Lang, Kay Francis and Ginny Simms.

I have been receiving the five dollar victory notes you sent way out here. It sure comes in handy because we don't get any too much money here in the Army.

Well, I am running out of gab now, so until later, so long and good luck. Tell the boys I said hello.

LEO A. FISHEL.

Sept. 28, Camp Carson, Colo.

I extend to you and the company my sincere thanks for the last two Victory Notes. Am sorry I didn't answer before this. They sure come in good as I am usually a "little low" during the middle of the month. You really send them at the right time. I'm sure all the boys will agree with me on that.

You will notice a change in my address. I sure like it fine out here.

We are just at the foot of Pike's Peak, beautiful scenery.

Yours truly,

NORWOOD EARLY.

Sept. 27, Camp Van Dorn, Miss.

Received my V notes and was very glad to get them. Tell the boys to give till it hurts—then give some more. I am thanking all the folks in the S. Morgan Smith company. Keep up the good work, and I will keep walking in Mississippi mud.

Thanking you again,

HOWARD HESS.

Sept. 28, c/o F. P. O.

Received your victory check which I was very happy to get. I want to congratulate you fellows for what you are doing for us fellows in the service. I imagine that you have heard about my getting married while I was home. I had such a very short time to do so very many things. I wish that I could have spent more time seeing the shop and the boys.

I wish that I could tell you some of my experiences and places I have been, but I am unable to do so. Tell the boys that we will get them a Jap and tell them to keep up the good work. You can tell by my return address where I will be stationed.

Say hello to all the boys for me and tell them that I hope to be back with them real soon.

Your "Turbine Topics" are very good and interesting and I am saving them. I showed them to the fellows on board and they liked them also. You always tell a story about one of the big jobs which I find very interesting. Well, I shall close because it is getting close to chow time.

GORDON EUGENE DRESCHER, MM 2/c

Oct. 23, Great Lakes, Ill.

I received your check yesterday. It looked very nice and will come in handy when it's time for me to come home. If everyone in our company is good we will leave this great big jail the 25 of November and get home early the 26. The thing they stress most in the Navy is cleanness, and sometimes they overdo it. You have to wash your own clothes and have no way to press them, so the solution is to roll them. We live out of a seabag. That is, all our clothing is rolled and kept in it. Then when you need something it's always on the bottom. The food is fine and I don't fall short. You also have plenty of time—two hours for each chow period.

I think I may get MM 2/c if not F 2/c rating after a lot of interviews. I hope I get one of them because then I go out to sea and they say you're no sailor till you have been there.

ROBERT SHEFFER.

EMPLOYEE BIOGRAPHIES

FRED KUHLMAN

If you worked in Dept. A, you might be looking forward to a sauerkraut party on Fred's farm. And if Fred Straley hadn't jinxed those pork and turnip seeds before he gave them to Fred, you might have gotten a taste of that too.

Fred served his apprenticeship with our company from 1891 to 1897. From that year until 1901, he worked at the Penn Iron Works in Philadelphia and Sparrows Point, Md., the Baldwin Locomotive Works and the Newport shipyard. In 1901 he returned to the S. Morgan Smith company and now boasts a record of 42 continuous years of service.

For approximately twenty years Fred worked as a road man. Almost an equal number of his long years here in our company were spent on the 35′ boring mill in Dept. A.

On May 15, 1876, Fred was born in York. He is the father of two children.

Fred is a member of the Junior Order of Mechanics, the Royal Order of Moose, the Volunteer Firemen's Relief Association, a charter member of the S. Morgan Smith Company Beneficial Association and a trustee of the shop union.

REUBEN REISINGER

This month's two "Old-Timers" seem to be veteran fire-fighters. Rube even was "foreman" of the Royal Fire Company at one time. He certainly must be familiar with those early morning calls and sliding down the brass pole.

Besides being a member of the Royal Fire Company, Rube belongs to the State Firemen Association, Firemen's Relief Association, Foremen's Club, and is a trustee of the S. Morgan Smith Beneficial Association. He was born on Mar. 12, 1884.

It was 42 years ago that Rube began his apprenticeship in the Pattern Shop, which was then located above the Shop Office. At that time it was customary for the apprentices to do all the cleanup work. Other "Old-Timers" remember how Rube used to carry out the rubbish—in a basket almost as big as himself. For several years he was the assistant checker in the Pattern Shop under the foreman, Pete Bentzel.

After Pete's death, Rube took his place. "Details—Their Importance" is not only the title of our feature article this month, but also may well be applied to Rube's attitude toward his job.

RAYMOND BAUM

Ray is a member of the family of Baum boys who are so well known for their vocal talent. He used to be a member of a church choir too—until baseball interfered.

Before coming to work at the S. Morgan Smith Company, Ray was employed by the York Electric Machine Company, the York Corporation and the D. & E. Metal Company. On October 9, 1929, he entered the employ of our company as a machinist apprentice and has been here continuously ever since.

At one time while Joe Gleason was foreman of the Plate Shop, Ray used to heat rivets over there. For the last several years, he has been operating a boring mill in Dept. A.

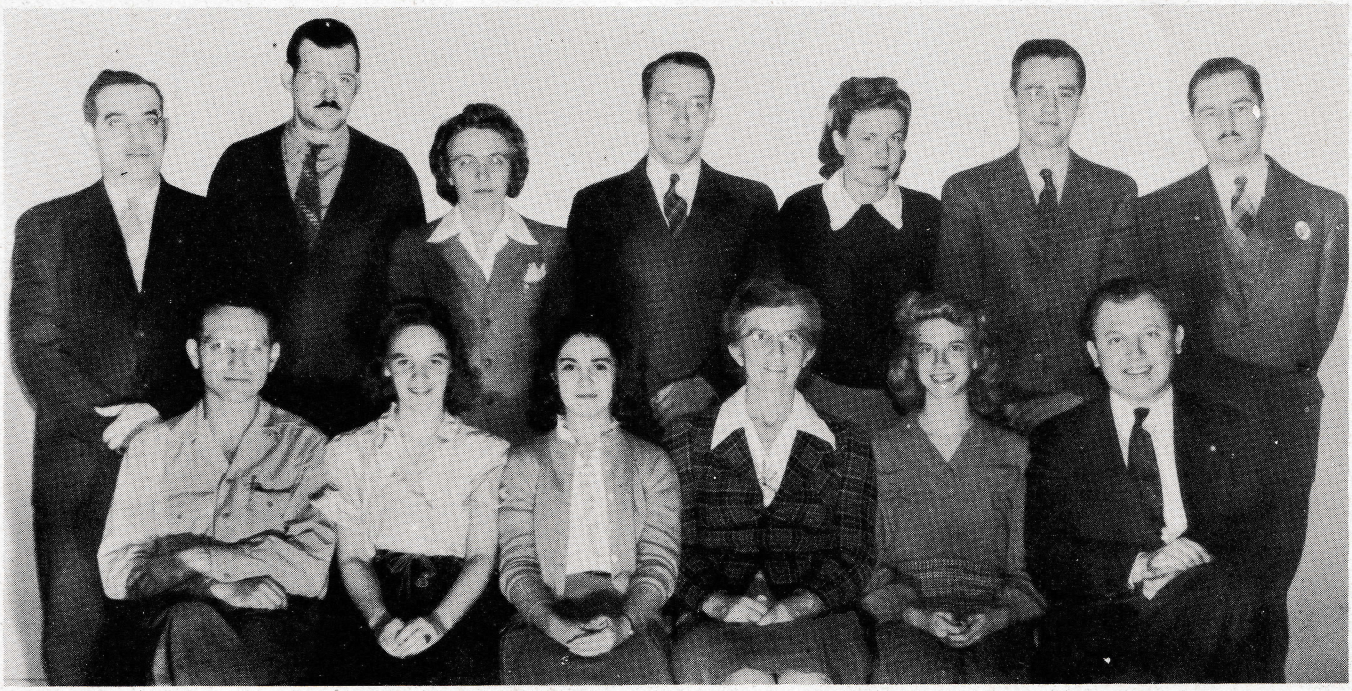
On October 28, 1896, Baumie was born in Thomasville. His only child, a daughter, is the wife of Art Hartman, who works in the Plate Shop.

The plumbers in York county have probably discovered that they have some competition in Ray, for he is widely known especially as a pump salesman.

Among all those employees whose names have been drawn for use on this page Baumie has the longest service record, 14 years.

S. M. S. ATHLETIC ASSOCIATION

Board of Governors and Officers



Front row, left to right: president, John Andrews, Floor 1; first vice-president, Bette Foust, Cost Dept.; second vice-president, Vivian Smith, Main Office; secretary, Martha Bender, Cost Dept.; historian and reporter, Betty Davis, Personnel Office; treasurer, Walter Rohrbaugh, Auditor's Office. Back row, left to right: Marion Long, Dept. B; Claude Brenneman, Navy Assembly; Grace Eisenhart, Cost Dept.; Jack Fisch, Design Dept.; Louise Auman, clerk, Floor 1; Fred Meisenhelder, Engineering Dept.; and Grant H. Voaden, Engineering Dept., board of governors.

It was the night of August 30 that the ball started rolling. From that first meeting attended by 25 people has grown the present S. Morgan Smith Company Athletic Association, boasting a membership of 245.

At the September 13 meeting the constitution and by-laws were reviewed, and the nominating committee submitted the names of persons whom they selected to fill the offices of the association. Under the direction of the following committee, Vernon Hoke, Dept. B, chairman, Vivian Smith, Main Office, and Donald Hartman, Dept. C, the election of officers was conducted at a meeting on September 21. Pictured above are the victorious candidates.

As this was going to press the association was planning its first venture —a party on November 13. The association members and their friends were offered four hours of dancing to the music of Dick Moul's orchestra and a card party.

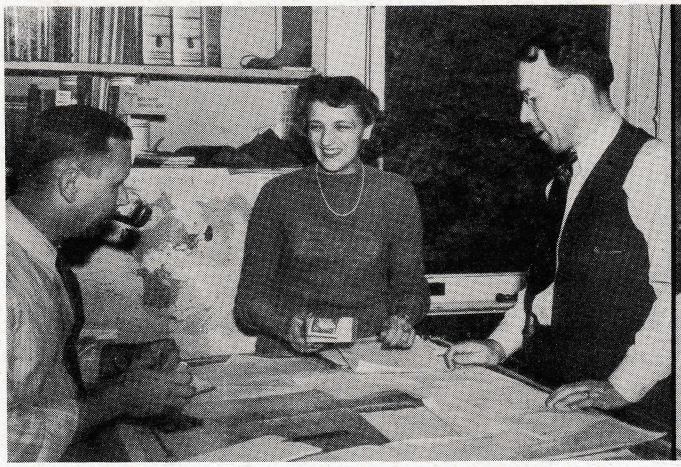
The committees responsible for the management of the affair are as follows: Plans and Preparations: Floor 1 clerk, chairman, Louise Auman; and Tony Hoffman, Jr., Plate Shop; Table Reservations, Tony Hoffman; Tickets: George Myers, Dept. B, chairman; Vivian Smith, Main Office; Bill Messersmith, Dept. C; Robert Wolf, Dept. A; Paul Grissinger, Sergeant of the Guards; Claude Brenneman, Navy Assembly; Betty Becker, Production Dept.; John Godfrey, Floor 1; Ken Loucks, Weld Shop, and Paul Stumpf, Weld Shop Time Study; Card Party: Harry Shive, Design Dept., chairman; Bill Myers, Stores & Receiving; Martha Bender, Cost Dept.; John Spangler, Floor 1; and Arline Fitzkee, Main Office.

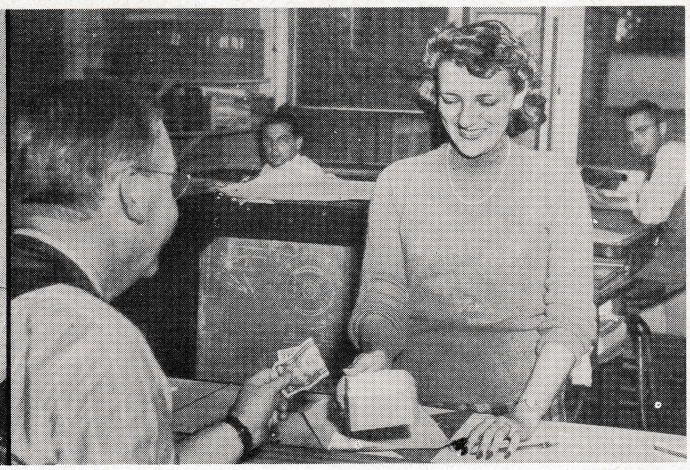
The next project that the association members are planning is the formation of a basketball team which will compete in the Senior Community league. If enough interested people are found there are possibilities of having an inter-departmental league for men and some teams for girls too. So dust off your dribble, basketball enthusiasts, and be sure to attend the next monthly meeting of the association on Tuesday, December 14, when these plans will be discussed.

On December 4 the group is tentatively planning to sponsor a barn dance. All association members and their friends will be admitted to the affair gratis.

PFC. CHARLES HOKE slinging the "bull" with his brother, Vernon (Ice Cream) Hoke, Bob (Horse Shoe) Miller and Reed (Ringer) Everhart. When you fellows find out which way the street cars run in Japan please let us know.

SGT. GORDON WECKER getting the news about the Design Dept. and Contract Service Dept. from John Lytle, Bob Luzier, Esther Williams and Bob Rudacille that cannot be printed in "Turbine Topics." (See Gordon's letter in the October issue.)

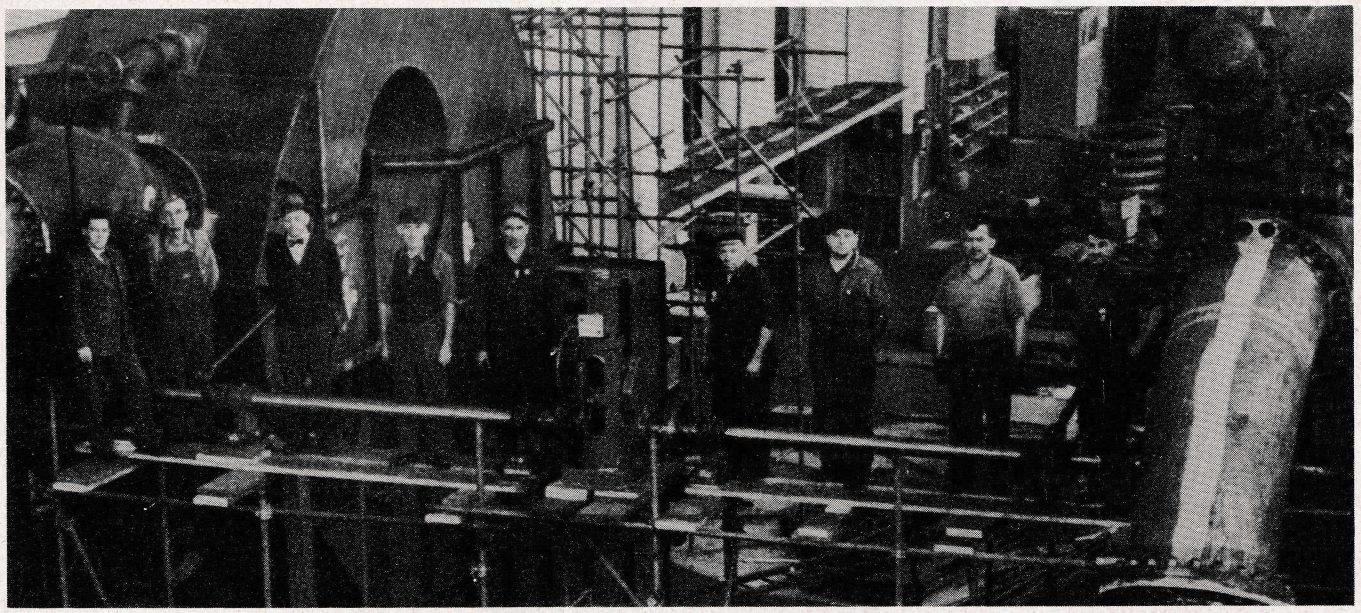


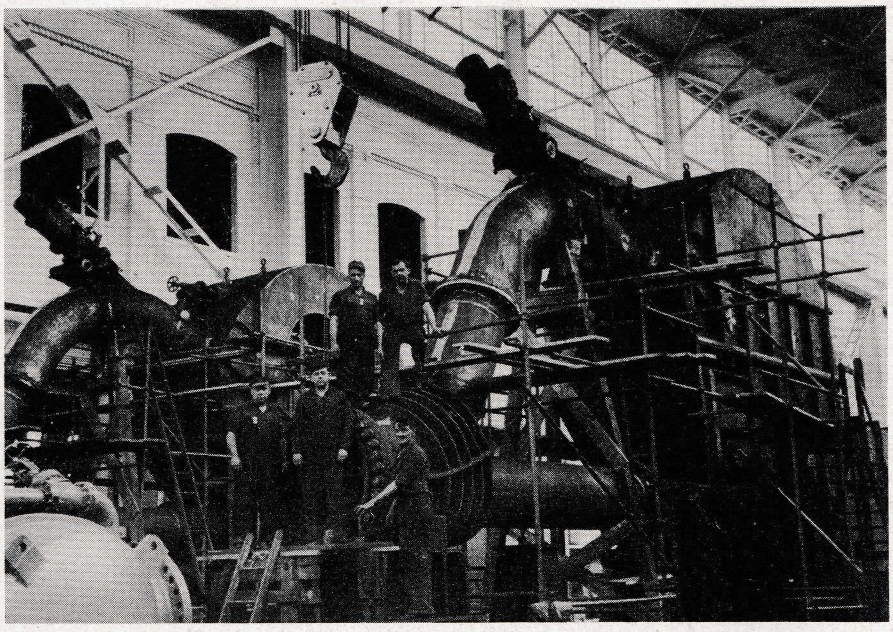


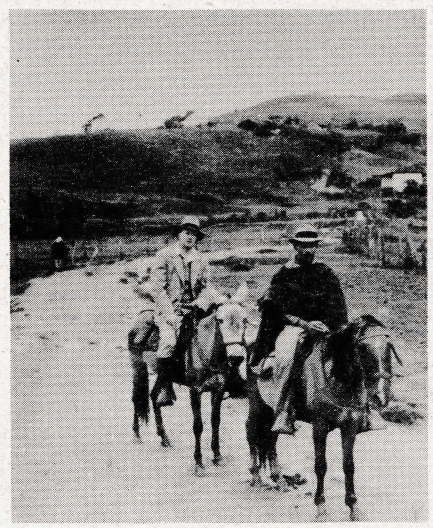
PHYLLIS MUNDIS, DESIGN DEPT., who does an outstanding job in collecting money for the Victory fund. She is selling Chester Smith on the idea of paying up for a three months absence and apparently is receiving some support from Jack Fisch. After contacting the people in the Design, Contract Service and Engineering departments, she finally smiles very nicely for Charlie Spence, and is rewarded with a dollar bill. Harry Shive and Thoralf Breda are just waiting to be touched for a donation.

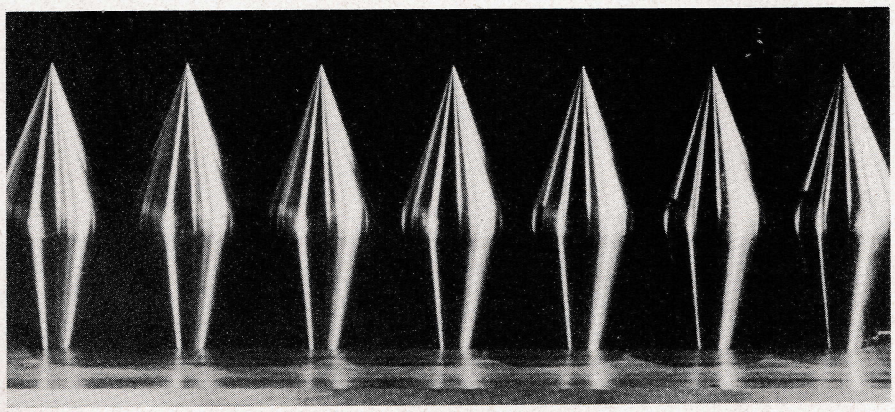
TWO HARD-WORKING BRANCH MANAGERS now in York. Left, Howard A. Mayo, of Boston, Mass., office, and right, George C. Hochwalt, of Chicago, Ill., office. These two men are devoting their entire time to the war effort. They both served in various departments of the main office back in the twenties before becoming branch managers. Welcome home!

CAMERAMAN . . . . .









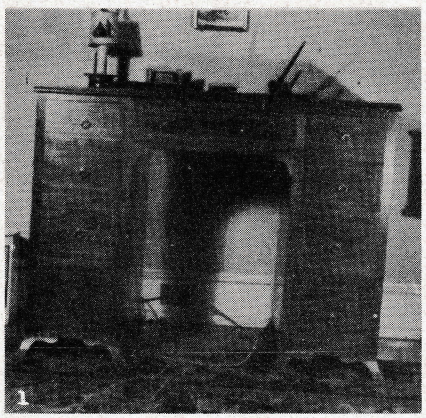
HAROLD (COWBOY) SEITZ, Sales Engineer and special reporter for "Turbine Topics," enroute to the power plant in Chile where the large double runner impulse turbine recently built in our shop will soon be installed. This turbine, pictured to the left and at the top of this page, has been one of the most spectacular ever assembled in our plant. For the past two months it has occupied almost the entire new erecting floor. The needle bulbs for these impulse runners are shown at the bottom left. Watch for the feature article by Mr. Seitz in the December "Turbine Topics" about this project. Maybe Harold will tell us about his trip to the site. Now we know how he gets along on an A gas ration book. Who's your friend, Harold, and what does he have under that blanket?

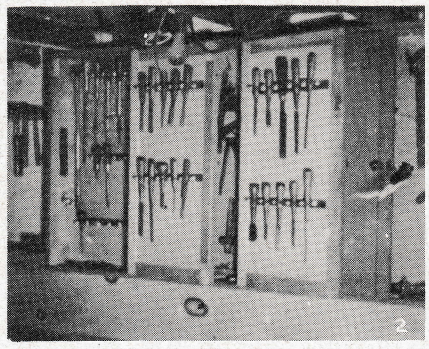
GEORGE KLUNK . . . MASTER of SAW and HAMMER

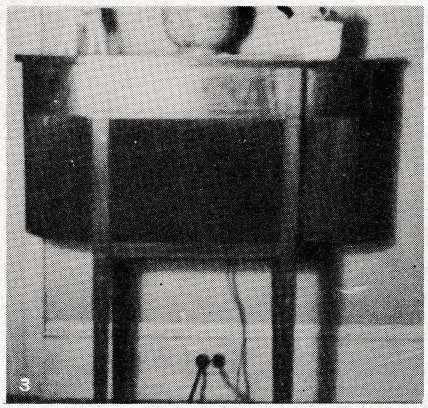
Since 1934 George Klunk has been a stockkeeper in the Weld Shop storeroom. In his spare time he has been working at his old trade, cabinet-making. For about ten years George and the late "Doc" Eader, Estimating Dept., were partners and worked together on all kinds of furniture. Since Doc's death in April George has been carrying on alone.

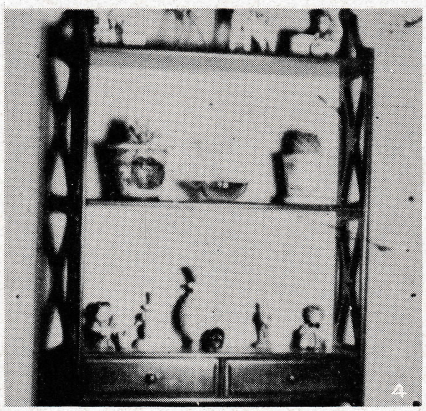
Pictured to the right are some examples of George's handiwork: (1) A walnut desk with an inlaid top, which required one year to make. (2) The array of tools that George uses. [He makes everything by hand.] (3) A walnut Martha Washington sewing cabinet, inlaid top, made in four months. (4) A bric-a-brac which George turned out "in no time." (5) A walnut end table, inlaid top, that he finished in one month. (6) A 7′ 2″ high grandfather's clock of solid mahogany, requiring 17 months to make.

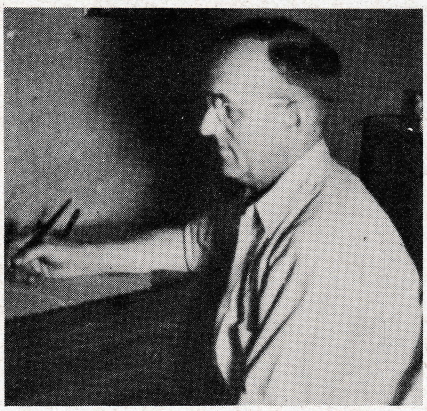
Below is cabinetmaker George, himself, seated at his desk.

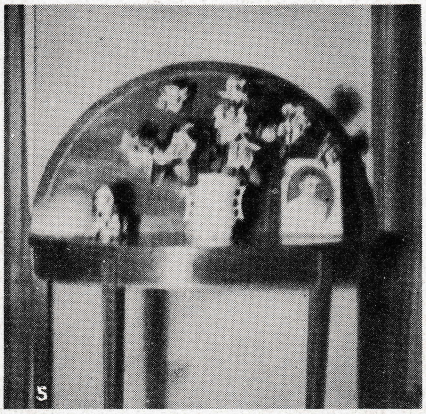


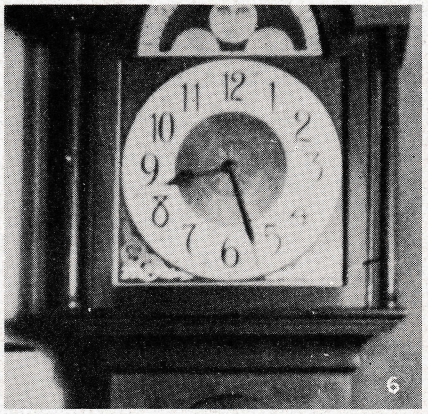












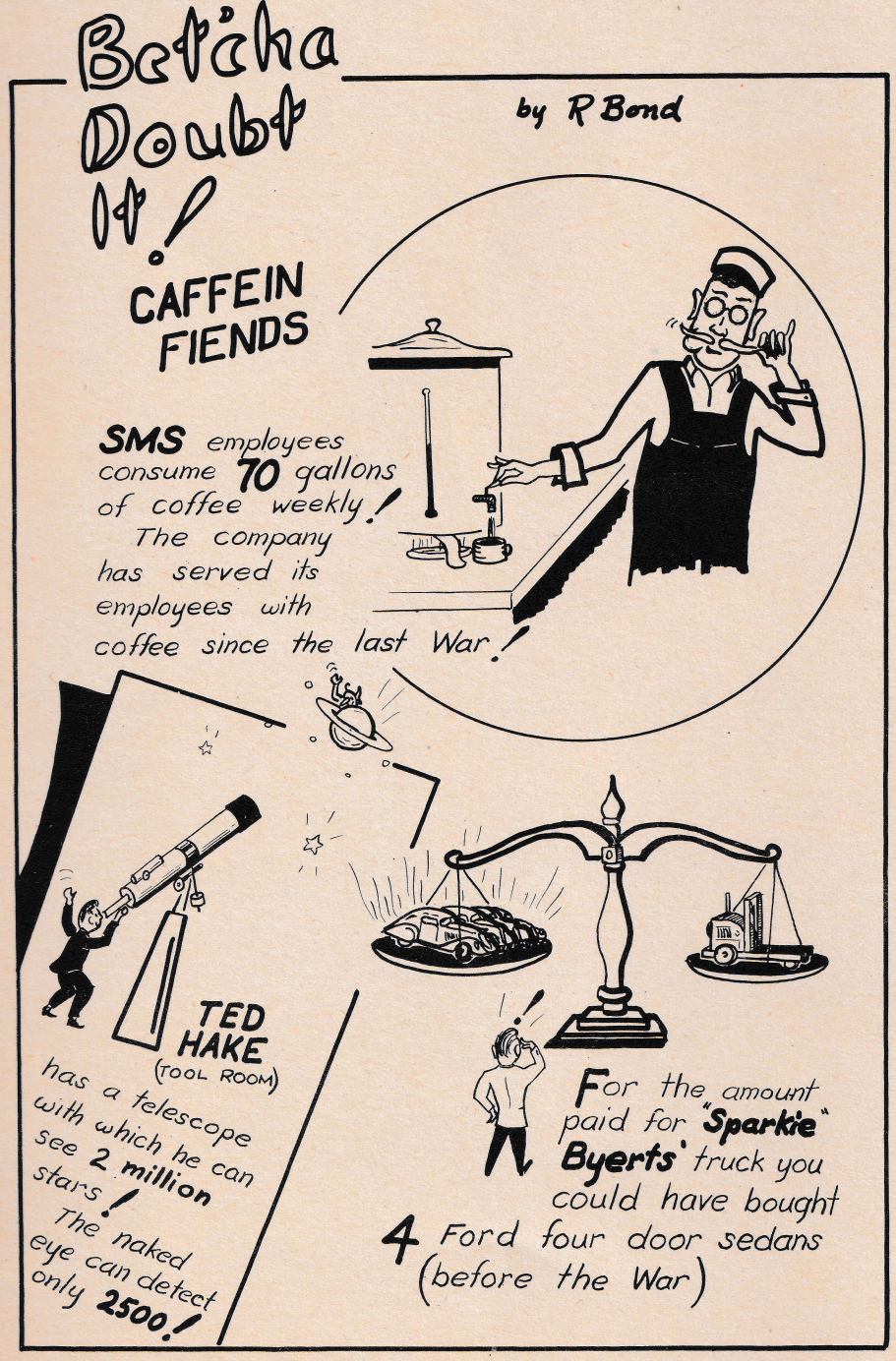
UNION ACTIVITIES

56 "Canteen Goodies" were mailed to former members of the union who are now in the armed forces. In order to insure that each boy would receive his package before Christmas morning, all of them were mailed on October 2. Other employees inducted before November 20 were also sent a package.

On September 22, a letter was received from the general secretary-treasurer of the International I. A. M., E. C. Davison. Mr. Davison congratulated the Local 1400, I. A. M., on its purchase of war bonds during the September drive. The union requested that its money be used to buy a 30 caliber machine gun costing $275, a walkie-talkie, $200, and a general purpose 100-pound bomb, $41.63.

DECEMBER BIRTHDAY GREETINGS

1—John Rauch, A; John Shenberger, Navy; Luther Stambaugh, Plate Shop; and William Sterner, Plate Shop.
2—William Fissel, B.
3—Jacob Helfrich, Tool Room; Cpl. Waldemar Senft; and Ralph Trimmer, Pattern Shop.
4—Clair Cunningham, Plate Shop.
6—Roy Owen, road man.
7—Carl Falkenstein, B; and John Flohr, A.
8—Charles Givens, Floor 3 & 4.
9—Charles Hershey, C; Richard W. Keffer, Navy store room.
10—George Gingerich, Floor 1; George Haare, B; and Harry Mowers, Tool Room.
11—Robert Crone, Floor 1; and Elsie Elicker, main office.
12—George H. Beck, Floor 3 & 4; Raymond Platts, main office; and Oliver Snyder, Weld Shop.
13—Clarence Bentz, Floor 1; Sgt. M. J. Bievenour; Paul Shuler, Weld; and Elmer Spangler, B.
14—S/Sgt. Eugene Baker; Howard Deisinger, Traffic; and Pvt. Roger McWilliams.
15—Nestor Bowen, Tool Room; Lt. Ray Ketterman; and Pfc. Robert Sponsler.
18—Willis Tracy, fireman.
21—William Frey, Plate Shop; and John Spangler, Floor 1.
22—Cpl. John Strobeck.
23—Lester Lau, B; Carolyn Nusbaum, Cost; and Edmund Runk, A.
24—Mary Boyer, mail clerk; John Fry, Jr., Navy; Julia Lehr, Traffic; and Arthur Palmer, Navy.
25—Edgar Bair, Plate and Weld Shops; Bertha E. Hayes, matron; and Robert Urich, Plate. Shop.
26—Paul Schrum, Maintenance.
27—Harvey Trone, C.
28—Howard Sechrist, Jr., A; and Ivan Zimmerman, Floor 1.



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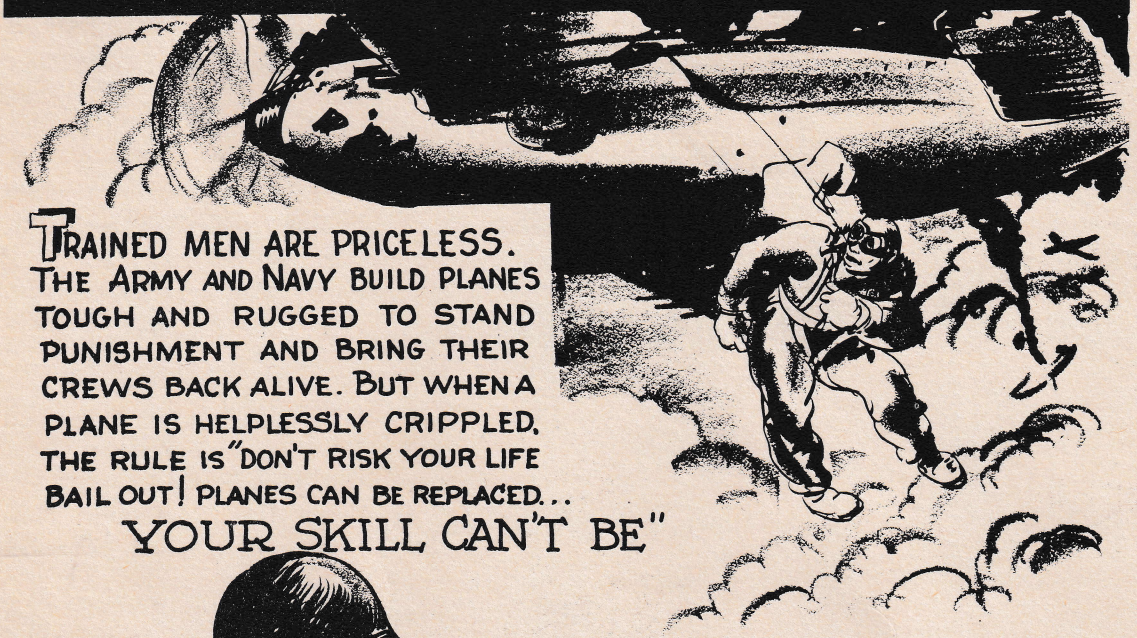
SAFETY BUILDS WAR POWER!



TRAINED MEN ARE PRICELESS. THE ARMY AND NAVY BUILD PLANES TOUGH AND RUGGED TO STAND PUNISHMENT AND BRING THEIR CREWS BACK ALIVE. BUT WHEN A PLANE IS HELPLESSLY CRIPPLED, THE RULE IS "DON'T RISK YOUR LIFE BAIL OUT! PLANES CAN BE REPLACED... YOUR SKILL CAN'T BE"

SOLDIERS ARE REQUIRED TO WEAR HELMETS FOR THEIR SAFETY.

SAFETY CONSERVES THE NATION'S GREATEST ASSET; SKILLED AMERICANS

WARTIME ACCIDENTS WASTE MANPOWER, DELAY VICTORY.